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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/711,560 | 09/24/2004 | Koji Uno | SIC-04-013 | 5559 |

29863 7590 05/03/2007

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| EXAMINER | |
|---|---|
| CUEVAS, PEDRO J | |
| ART UNIT | PAPER NUMBER |
| 2834 | |

| MAIL DATE | DELIVERY MODE |
|---|---|
| 05/03/2007 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/711,560 | UNO, KOJI | |
| | Examiner | Art Unit | |
| | Pedro J. Cuevas | 2834 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *22 January 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-44* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13 and 17-44* is/are rejected.

7)☒ Claim(s) *14-16* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *24 September 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Response to Appeal Brief*

1. Applicant's arguments on the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

### *Response to Arguments*

2. Applicant's arguments, see pages 5-7, filed on January 22, 2007, with respect to claims 1-8, 10, 13, 19 have been fully considered and are persuasive. The 35 U.S.C. § 102(b) rejection of claims 1-8, 10, 13, 19 has been withdrawn.

### *Claim Rejections - 35 USC § 112*

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 2, 12, 18 and 33 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. It is not clear how a power communication path connected to an external terminal or connector can alter or modify the physical characteristics of an electric signal generated by the regulator.

### *Claim Rejections - 35 USC § 103*

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1-9, 11-13 and 18-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,418,041 B1 to Kitamura in view of U.S. Patent No. 5,015,918 A to Copeland.

Kitamura disclose the construction of a bicycle power supply comprising:

a housing (20) adapted to be mounted to the bicycle;

a regulator (43) to receive signals from a power supply (27); and

an output (44, 45) disposed on the housing to supply regulated signals provided by the regulator to a plurality of electrical bicycle components (Other I/O Devices – Figure 4) external to the housing;

wherein the output includes:

a first external terminal (Figure 4) to provide electrical signals to a first electrical bicycle component; and

a separate second external terminal (Figure 4) to provide separate electrical signals to a second electrical bicycle component.

However, it fails to disclose a regulator supported by said housing.

Copeland teach the construction of a bicycle single-wire lighting system comprising:

a housing (removable headlamp unit 17) adapted to be mounted to the bicycle (column 14, lines 23-50); and

a regulator (6) supported by said housing to receive signals from a power supply (14);

for the purpose of imposing a voltage drop represented by the variable resistance 18 to maintain the lamp 1 voltage $V_L$ constant at times when the battery potential $V_B$ exceeds the lamp requirements.

It would have been obvious to one skilled in the art at the time the invention was made to use the regulator disclosed by Copeland on the bicycle power supply disclosed by Kitamura for the purpose of imposing a voltage drop represented by the variable resistance 18 to maintain the lamp 1 voltage $V_L$ constant at times when the battery potential $V_B$ exceeds the lamp requirements.

7. With regards to claims 2, 12 and 18, Kitamura disclose a plurality of power communication paths (Figure 8), wherein a first power communication path (Shift VTL) connected to the first external terminal provides a physically different power characteristic than a second power communication path (Lamp CTL) connected to the second external terminal.

8. With regards to claims 3 and 4, Kitamura disclose an input (40, 41) disposed on the housing to receive power from an external power supply and to supply the power from the external power supply to the regulator, and adapted to receive power from an alternating current generator.

Also with regards to claim 4, it has been held that the recitation that an element is "adapted to" perform a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchison*, 69 USPQ 138.

9. With regards to claim 5, Kitamura disclose a power storage element (35) supported by the housing for storing power from the alternating current generator.

10. With regards to claim 6, Kitamura disclose the plurality of electrical bicycle components comprising a radio, a cell phone charger and a light (column 1, line 9 to column 2, line 29).

11. With regards to claims 7, 11, 13 and 29, both Kitamura and Copeland disclose both of the first and second external terminals are structured to be detachably connected to its corresponding first or second electrical bicycle component.

12. With regards to claim 8, Kitamura disclose a mounting member (Figures 2 and 3) disposed on the housing to detachably mount at least one of the first or second electrical bicycle components to the housing.

13. With regards to claim 9, Copeland disclose an external contact terminal (43, 44) structured to contact a complementary contact terminal its corresponding first or second electrical component when the corresponding first or second electrical bicycle component is mounted to the housing.

14. With regards to claim 19, Kitamura disclose signals communicated from the regulator to the first external terminal are adapted to be communicated to a display (24).

Also with regards to claim 19, it has been held that the recitation that an element is "adapted to" perform a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchison*, 69 USPQ 138.

15. With regards to claim 20, Copeland disclose a data signal output (44, 45) disposed on the housing and structured to communicate a data signal to the display (24).

16. With regards to claim 21, Copeland disclose a signal input (40, 41) disposed on the housing and structured to receive a signal from outside of the housing.

17. With regards to claims 22 and 30, Copeland disclose a waveform shaping circuit (Figures 6-13) supported by the housing, wherein the waveform shaping circuit receives the signal from the signal input and provides a shaped signal as the data signal to the first external terminal.

18. With regards to claim 23, Copeland disclose the signal input is structured to receive a signal from an alternating current generator (14).

19. With regards to claim 24, Copeland disclose the regulator receives the signal from the alternating current generator and uses the signal from the alternating current generator to provide power to the first external terminal to power the display.

20. With regards to claim 25, Copeland disclose a power storage element (battery 3) supported by a housing for storing power from the alternating current generator.

21. With regards to claim 31, Copeland disclose an auto-light circuit (7, 8, 9) supported by the housing to provide signals through the first external terminal to automatically turn a light on and off.

22. With regards to claim 34, Kitamura disclose the DC voltage produced by the full-wave voltage rectifier circuit at a level not exceeding a first prescribed voltage (for example, 10 V). Copeland disclose the use of a 6 volt 3 watt nominal rating bicycle generator.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to generate the electrical signal having a voltage in a range from approximately 1.2 volts to approximately 3.7 volts, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

23. With regards to claims 35 and 44, Kitamura disclose the output includes a third external terminal to provide separate electrical signals to a third electrical bicycle component, wherein the first, second and third external terminals are disposed in a row (Figure 4).

24. With regards to claims 36 and 41, Copeland disclose the mounting member projecting from a surface of the housing and is structured to detachably connect at least one of the first or second electrical bicycle components such that the at least one of the first or second electrical bicycle components cannot be detached in a direction substantially perpendicular to the surface of the housing (Figure 3).

25. With regards to claims 37 and 42, Copeland disclose the mounting member having a wall that forms an abutment that faces in a direction toward the surface of the housing (Figure 2).

26. With regards to claims38 and 43, Copeland disclose the mounting member having a dovetail shape (72).

27. With regards to claim 39, Copeland disclose the first external terminal being disposed on the housing at a first side of the mounting member, and wherein the second external terminal is disposed on the housing at an opposite second side of the mounting member.

28. With regards to claim 40, Copeland disclose the first external terminal is disposed on the housing at a first side of the mounting member, and wherein the second external electrical terminal is disposed on the housing at the first side of the mounting member.

29. Claims 10 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,418,041 B1 to Kitamura in view of U.S. Patent No. 5,015,918 A to Copeland as applied to claims 1-9, 11-13 and 18-44 above, and further in view of U.S. Patent Application Publication No. 2004/0013938 A1 to Murashige et al.

Kitamura in view of Copeland disclose the construction of a bicycle power supply having a regulator supported by a housing as disclosed above.

However, it fails to disclose a mounting member having a surface comprising one of a convex portion or a concave portion structured to engage a corresponding one of a concave portion or a convex portion on the at least one of the first or second electrical bicycle components one of the plurality of first or second electrical components so that the at least one of the first or second electrical bicycle components cannot be detached in a direction substantially perpendicular to the surface of the mounting member from which the one of the convex portion or the concave portion extends.

Murashige et al. disclose a mounting member having a surface comprising one of a convex portion or a concave portion structured to engage a corresponding one of a concave portion or a convex portion on the at least one of the first or second electrical bicycle components one of the plurality of first or second electrical components (paragraph [0058] – [0065]) so that the at least one of the first or second electrical bicycle components cannot be detached in a direction substantially perpendicular to the surface of the mounting member from which the one of the convex portion or the concave portion extends for the purpose of the connecting the terminals of a battery pack.

It would have been obvious to one skilled in the art at the time the invention was made to use the terminal structure disclosed by Murashige et al. on the bicycle power supply having a regulator supported by a housing disclosed by Kitamura in view of Copeland for the purpose of connecting the terminals of a battery pack.

***Allowable Subject Matter***

30. Claims 14-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

31. The following is a statement of reasons for the indication of allowable subject matter.

The prior art of record, taken alone or in combination, does not teaches the construction of an apparatus for providing electrical signals to bicycle components as described on and including all the disclosed limitations of:

dependent claim 14, wherein:

the first and second external terminals comprise respective first and second contact terminals;

the first contact terminal is provided in close proximity to the first mounting member and is structured to contact a first complementary contact terminal on of the first electrical bicycle component when the first electrical bicycle component is mounted to the first mounting member; and

the second contact terminal is provided in close proximity to the second mounting member and is structured to contact a second complementary contact terminal on the second electrical bicycle component when the second electrical bicycle component is mounted to the second mounting member; and

dependent claim 15, wherein:

the first and second external terminals comprise respective first and second connector terminals;

the first connector terminal is provided in close proximity to the first mounting member and is structured to engage a first complementary connector terminal on the first electrical bicycle component when the first bicycle component is mounted to the first mounting member; and

the second connector terminal is provided in close proximity to the second mounting member and is structured to engage a second complementary connector terminal on the second electrical bicycle component when the second electrical bicycle component is mounted to the second mounting member.

Dependent claim 16 is considered allowable by its dependence on dependent claim 15.

***Conclusion***

32. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pedro J. Cuevas whose telephone number is (571) 272-2021. The examiner can normally be reached on M-F from 8:30 - 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on (571) 272-2044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Pedro J. Cuevas
April 27, 2007

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